

WRIGHT-PATTERSON AIR FORCE BASE, AREA B,  
BUILDING 8, ENGINEERING SHOPS  
DAYTON VIC.  
GREENE COUNTY  
OHIO

HAER No. OH-79-L

HAER  
OHIO  
29-DAYTON  
IL-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record  
National Park Service  
Department of the Interior  
P.O. Box 37127  
Washington, D.C. 20013-7127

HISTORIC AMERICAN ENGINEERING RECORD  
WRIGHT-PATTERSON AIR FORCE BASE, AREA B,  
BUILDING 5, ENGINEERING SHOPS

HAER No. OH-79-L

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Location: E Street between 9th and 10th Streets, connected to the rear of Hangars 1 and 9; Wright-Patterson Air Force Base, Area B, Dayton Vicinity, Greene County, Ohio.

Date of Construction: 1943.

Architect: United States Army Quartermaster Corps.

Construction Contractor: National Concrete Fireproofing Company.

Present Owner: USAF.

Present Use: 4950th Test Wing Fabrication and Modification Division.

Significance: Part of the Wright Field flightline complex constructed during World War II, this building provided industrial shops to support aircraft modification and repair in the adjacent flight test hangars.

Project History: This report is part of the overall Wright-Patterson Air Force Base, Area B documentation project conducted by HAER 1991-1993. See overview report, HAER No. OH-79, for a complete description of the project.

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DESCRIPTION: Connected to the east side of Hangar 9, away from the flying field, Building 5 is a square one-story building, measuring 360' x 420', with a nine-section barrel-vaulted roof. Over each 40' vault is a long gable-style skylight admitting natural light down to the original wood-block floors below. The barrel vaults are evident in the exterior of the poured-concrete east wall of the building, above a row of steel-sash windows that replaced the original windows in 1984. In 1953 and 1954 the building was extended to the south to incorporate Building 72 (the foundry) into the Engineering Shops. Also in 1954 a two-story covered craneway running east and west was added to provide access for heavy freight and equipment using the railroad spur on the east side of the building.

HISTORY: Building 5 was constructed in 1943 as part of the expanded Wright Field World War II flightline complex. The structure was designed by the U.S. Army Quartermaster Corps and constructed by the National Concrete Fireproofing Company. Columns and roof barrels were constructed first; falsework mounted on rails supported the barrel forms. Plywood sheathing was bent to create the curve of the barrel vaults which were reinforced by a stiff concrete mix to an average thickness of 4".

The building served as the new engineering shops facility to accommodate functions previously conducted in the metal, machine and wood shops (Building 32) which were at a considerable distance from the flightline and the new hangars. Although the Area B (Wright Field) runways are no longer used, Building 5 still serves as a shop facility for the 4950th Test Wing. Technicians construct models of prototype aircraft from metal, wood and fiberglass for wind tunnel testing, both at Wright Field and other Air Force bases such as Langley. Approximately 75 percent of Air Force model makers are employed here. Models developed in the past decade include the F-111 and the Space Shuttle.

For bibliography, see Wright-Patterson Air Force Base overview report (HAER No. OH-79).